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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,156	01/31/2001	Wilhelmus Hendrikus Alfonsus Bruls	PHNL 000031	8179

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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BRIARCLIFF MANOR, NY 10510

EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/773,156	BRULS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Allen Wong	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on appeal brief filed 8/31/05.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see appeal brief, filed 8/31/05, with respect to the rejection(s) of claim(s) 1, 6, 11 and 12 under Yonemitsu have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yonemitsu and Sazzad et al (6,122,321).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yonemitsu (5,485,279) in view of Sazzad (6,122,321).

Regarding claims 1 and 6, Yonemitsu discloses a method and video encoder for encoding images in a first resolution mode with reference to a reference image having said first resolution (fig.20 is a video encoder that encodes images in MPEG standard including I, P and B images with a first resolution, where I and P frames are reference images), the encoder comprising a memory having the capacity for storing said reference image with said first resolution (fig.20, element 63 is a memory for storing reference image in first resolution mode); and control means for selectably encoding said images in a second, lower resolution mode with reference to two reference images

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having said second resolution (fig.20, element 54 controls the image prediction encoding mode), and for storing said two reference images with the second resolution in said memory (fig.20, element 121 is a memory for storing reference images in second resolution mode).

Yonemitsu does not specifically disclose the memory for storing reference images in both first and second resolutions. However, Sazzad teaches the (col.13, ln.46-67, col.14, ln.13-22, col.16, ln.5-10, Sazzad discloses the storage of images of multiple resolutions (ie. SDTV, HDTV), as seen in fig.4, where element 430 is a memory unit that can store reference images I and P pictures as well as B pictures of different resolutions). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yonemitsu and Sazzad, as a whole, for reducing costs of producing video decoders, ie. MPEG and ATSC compatible decoders, and as well in other applications pertinent to other television receivers, video recorders, computers, other devices so as to decode high quality images in an efficient manner for display (Sazzad col.4, ln.15-17 and col.5, ln.12-19).

Regarding claims 2 and 7, Yonemitsu discloses further including a motion estimation circuit applying a predetermined search strategy in the first resolution mode to search motion vectors representing motion between an input image and the reference image, said motion estimation circuit being arranged to apply said search strategy in the second resolution mode to both reference images (fig.20, element 64 is the motion estimation/compensation circuit that applies a search strategy in the first resolution mode and also note there is an arrow that directs the motion estimation

circuit to apply the search strategy in the second resolution mode to elements 123 and then to element 122).

Regarding claims 3 and 8, Yonemitsu discloses wherein selected images are encoded in the second resolution mode with respect to one of said reference images, the motion estimation circuit being arranged to apply the search strategy in a first pass to search motion vectors with a first precision (fig.20, element 64 is the motion estimation/compensation circuit that applies a search strategy in the first resolution mode and also note there is an arrow that directs the motion estimation circuit to apply the search strategy in the second resolution mode to elements 123 and then to element 122 for searching motion vectors with a first precision), and to apply said search strategy in a second pass to refine the precision of the motion vectors found in the first pass (fig.20, note output of element 122 goes back to the DCT 164 for a second pass to refine the precision of the motion vectors found in the first pass).

Regarding claims 4 and 9, Yonemitsu discloses further arranged to selectably encode images in a third, yet lower resolution mode with reference to two reference images having said third resolution, said motion estimation circuit being arranged to apply said search strategy in the third resolution mode to both reference images, and to apply the search strategy for each reference image in a first pass to search motion vectors with a first precision (fig.20, element 202 is the motion estimation/compensation circuit that applies the search strategy in the third resolution mode to the reference images and also note there is an arrow that directs the motion estimation circuit to apply the search strategy in the third resolution mode to elements

204 and then to element 202 for searching motion vectors with a first precision), and to apply said search strategy in a second pass to refine the precision of the motion vectors found in the first pass (fig.20, note output of element 202 goes back to the DCT 203 for a second pass to refine the precision of the motion vectors found in the first pass).

Regarding claims 5 and 10, Yonemitsu discloses wherein said reference image having the first resolution is a previous image of a sequence of images (fig.20, note the reference image of a sequence of images stored in element 63 is in the first resolution), one of the reference images having the second resolution is a previous image of said sequence, and the other one of the reference images having the second resolution is a subsequent image of said sequence (fig.20, note the reference images of a sequence of images stored in element 124 is in the second resolution).

Regarding claims 11 and 12, Yonemitsu discloses a method and video decoder for decoding images in a first resolution mode with reference to a reference image having said first resolution (fig.21 performs the decoding operation of fig.20; also, fig.21 is a video decoder that decodes images in MPEG standard including I, P and B images with a first resolution, where I and P frames are reference images), the decoder comprising a memory having the capacity for storing said reference image with said first resolution (fig.21, element 75 is a memory for storing reference image in first resolution mode), characterized in that the video decoder comprises control means for decoding said images in a second, lower resolution mode with reference to two reference images having said second resolution (fig.21, note the IVLC 141 decodes prediction mode,

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motion vector, and quantization scale information, coded from control means of fig.20, for decoding the reference images in the second, lower resolution mode), and for storing said two reference images with the second resolution in said memory (fig.21, element 85 stores reference images in the second resolution).

Yonemitsu does not specifically disclose the memory for storing reference images in both first and second resolutions. However, Sazzad teaches the (col.13, ln.46-67, col.14, ln.13-22, col.16, ln.5-10, Sazzad discloses the storage of images of multiple resolutions (ie. SDTV, HDTV), as seen in fig.4, where element 430 is a memory unit that can store reference images I and P pictures as well as B pictures of different resolutions). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yonemitsu and Sazzad, as a whole, for reducing costs of producing video decoders, ie. MPEG and ATSC compatible decoders, and as well in other applications pertinent to other television receivers, video recorders, computers, other devices so as to decode high quality images in an efficient manner for display (Sazzad col.4, ln.15-17 and col.5, ln.12-19).

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Wong  
Primary Examiner  
Art Unit 2613

AW  
11/9/05